



HD 960H

# Professional HD 960H 30x Zoom Speed Dome - 120m IR Night Vision



## User Manual

Thank you for purchasing the XC960S30IRN camera from Xvision.

Please ensure that you read and understand this User Guide before operating the camera.

Please store this User Guide in an easily accessible location.

## Contents

<b>1. Product Overview .....</b>	<b>4</b>
1.1 Features .....	4
1.2 Package Contents.....	4
<b>2. Installation .....</b>	<b>5</b>
2.1 Connections .....	6
<b>3. Hardware Installation .....</b>	<b>7</b>
<b>4. Operation Instructions .....</b>	<b>8</b>
4.1 Preset Functions .....	8
4.2 Keyboard Operation .....	10
4.2.1 Preset Location Scan .....	10
4.2.2 Area Scanning .....	10
4.2.3 Start Area Scanning .....	11
4.2.4 Pattern Scanning .....	11
<b>5. Menu Setting .....</b>	<b>12</b>
5.1 System Information .....	12
5.2 Camera Setting 1 .....	13
5.3 Camera Setting 2 .....	13
5.4 PZM - Privacy Shelter .....	14
5.5 IR Set .....	14
5.6 Auxiliary Setting .....	15
5.7 Scanning Set .....	15
5.8 Title Set .....	16
5.9 Alarm Linkage .....	16
5.10 Language Setting .....	17
5.11 Default Setting .....	17
<b>6. Specification .....</b>	<b>18</b>

## Safety Precautions

- 1. Do not install the equipment in an environment with too much moisture, dust or smoke dust as this may result in fire or electric shock.**
- 2. In the unlikely event that the equipment should malfunction and emit an abnormal smell or smoke, please immediately stop it, shut off the power and contact your supplier.**
- 3. Please do not place this equipment near a heat source to avoid risk of fire.**
- 4. Please do not store, install and use this product in danger areas with inflammable or explosive substances.**
- 5. Please make sure the power is turned off when installing the product.**
- 6. Please ensure that you install the camera in an area with good ventilation.**
- 7. When installing the camera, please make sure that it does not face any objects giving out strong lights as this will damage the CCD of the camera.**
- 8. Please do not use the camera in an environment where temperatures exceed either -20°C to +55°C.**

## 1. Product Overview

Thank you for purchasing the HD 960H XC960S30IRN from Xvision. Please read through this manual carefully and make sure you understand before operating the camera.

### 1.1 Features

- Sony 960H CCD Sensor
- Xvision X2K DSP
- 120m IR Night Vision
- High Speed (Up to 360°) and reliable panning and tilting
- Auto Iris Auto Focus 30x Zoom Lens
- Viewing Angle between (1 - 60°)
- Maximum 256 Presets
- 50m Number Plate Recognition
- Designed for Wall or Ceiling Mount
- Weatherproof - IP66 Rated

### 1.2 Package Contents

The packaged box for the XC960S30IRN comes with the following items:

4



**XC960S30IRN  
Camera**



**Bracket**



**Power Supply**



**Installation Pack**

Including: Screws to attach camera to bracket and green RS485 terminal block



**User Manual**

### Optional Accessories



**Corner Mount**



**Ceiling Bracket**



**Mini Speed  
Dome  
Keyboard  
& Joystick**



**Pole Mount**



**Alarm Box**

## 2. Installation

The XC960S30 camera can be wall mounted, please follow the steps below for installation.

1. Using the bracket as a stencil, mark out the drill holes needed in the wall.



2. If feeding wires through the wall, you will need to drill a hole through the wall for the wires to go. However, if placing through the bracket, you can just feed through the side or bottom (shown below).



3. Drill the holes in the wall where you have made the marks and insert the wall plugs if required.



4. Now, thread the cable from the main camera back through the bracket.



5. Then, re-attach the main camera bracket to the base. To do this, use a cross head screw driver and turn the screws clockwise.



6. Lastly, screw the bracket into the wall.



## 2.1. Connections



BNC Socket for Video

DC Socket for Power

RS485 Terminal for Speed  
Dome Control

### 3. Hardware Installation

#### 3.1 Address Setting

The address of the camera can be set in 2 ways:

1. Address Dial Switch: To do this, adjust the dial switch on the camera to the desired address.
2. Soft Address: To set by soft address, you will need to go to the OSD Menu. For more information, please go to section 5.6 on page 14.

Please see the table below to see how to set the address on the camera.

Address	1	2	3	4	5	6	7	8
0	OFF							
1	ON	OFF						
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
250	OFF	ON	OFF	ON	ON	ON	ON	ON
251	ON	ON	OFF	ON	ON	ON	ON	ON
252	OFF	OFF	ON	ON	ON	ON	ON	ON
253	ON	OFF	ON	ON	ON	ON	ON	ON
254	OFF	ON						
255	ON							

## 4. Operation Instruction

### 4.1 Preset Functions

Please Note: Not all functions are supported (we recommend using our XSDA-2 for alarm in and out functions).

Preset Location	Function
95+CALL	Entering the main menu
XXX+PRESET	Saving a preset point
XXX+CALL	Calling a preset point
40+CALL	Operating the first group of preset location scanning
41+CALL	Operating the second group or preset location scanning
42+CALL	Operating the third group or preset location scanning
43+CALL	Operating the fourth group or preset location scanning
44+CALL	Set the left boundary of area scanning 1
45+CALL	Set the right boundary of area scanning 1
46+CALL	Set the left boundary of area scanning 2
47+CALL	Set the right boundary of area scanning 2
48+CALL	Set the left boundary of area scanning 3
49+CALL	Set the right boundary of area scanning 3
50+CALL	Set the left boundary of area scanning 4
51+CALL	Set the right boundary of area scanning 4
52+CALL	Operating area scanning 1
53+CALL	Operating area scanning 2
54+CALL	Operating area scanning 3
55+CALL	Operating area scanning 4
56+CALL	Start the setting of pattern scan
57+CALL	Save the setting of the first group of pattern scan
58+CALL	Save the setting of the second group of pattern scan
59+CALL	Save the setting of the third group of pattern scan
60+CALL	Save the setting of the fourth group of pattern scan
61+CALL	Operating the first group of pattern 1

62+CALL	Operating the second group of pattern 2
63+CALL	Operating the third group of pattern 3
64+CALL	Operating the fourth group of pattern 4
65+CALL	Starting 360° continuous rotation
67+CALL	Arm Alarm output 1
68+CALL	Arm Alarm output 2
69+CALL	Disarm Alarm output 1
70+CALL	Disarm Alarm output 2
71+CALL	Start alarm output 1
72+CALL	Stop alarm output 2
75+CALL	Start the display status column
76+CALL	Close the display status column
77+CALL	Start vertical flip
78+CALL	Close vertical flip
79+CALL	Start guard function
80+CALL	Close guard function
81+CALL	Start privacy shelter grid
82+CALL	Close privacy shelter grid
83+CALL	Turn on backlight compensation function
84+CALL	Turn off backlight compensation function
85+CALL	Turn on image freezing function
86+CALL	Turn off image freezing function
87+CALL	Start image mirror function
88+CALL	Stop image mirror function
89+CALL	Automatic colour-to-black function
90+CALL	Turn on automatic colour-to-black function
91+CALL	Turn off automatic colour-to-black function
92+CALL	Close the wide dynamic range function
93+CALL	Automatic wide dynamic range function
94+CALL	Manual wide dynamic range function
95+CALL	Enter the main menu

97+CALL	Begin image rollover function
98+CALL	Stop image rollover function
101+CALL	Defaulted setting
102+CALL	Switch manual operation speed (Fast/Medium/Slow)
103+CALL	Switch linear scanning speed (Fast/Medium/Slow)
107+CALL, 108+CALL	Calling 107 followed by 108 will restart the dome
109+CALL	Start communication for fault indication
110+CALL	Close communication for fault indication

## 4.2 Keyboard Operation

### 4.2.1 Preset Location Scan

There are a total of 4 preset routines and 32 preset locations can be set. To set the preset location;

1. Execute the command of setting a preset location.
2. Call the desired set option to the preset location.
3. Then, wait for the length of time you wish that preset point to stay in that position.
4. Call the next routine you want to set a preset location to.
5. Execute the command of setting a preset location and save the set.

### 4.2.2 Area Scanning

There are 2 ways of setting the area scanning.

1. Using special preset location order

Set the left boundary of region 1 by pressing the '44+CALL' preset.

Set the right boundary of region 1 by pressing the '45+CALL' preset.

## 2. Using the keyboard for setting

Set the left boundary of region 1 by moving the joystick to the left until you have reached the ideal position. To confirm the position, press the 'OPEN' key.

Set the right boundary of region 1 by moving the joystick to the right until you have reached the ideal position. To confirm the position, press the 'OPEN' key.

### 4.2.3 Start Area Scanning

To begin the area scanning function, call the preset location 52-55 which will operate the scanning path 1-4 respectively.

The dome will then rotate from left to right at the speed you have set.

### 4.2.4 Pattern Scanning

To set the pattern scanning function, follow the steps below;

1. Call the preset location 56 to open the setting.
2. To set your pattern you can use the 'up', 'down', 'left', 'right', 'wide', 'tele', 'near', 'far', 'close' and 'open' buttons. These will set the dome to go up, down, zoom etc in the pattern.
3. To save the pattern, call the preset location 57. This can be done up to 4 patterns by calling presets 57-60.
4. To operate the pattern scan, call the preset location 61-64, which will operate 1-4 respectively.

## 5. Menu Setting

To access the camera menu, when the camera is on, use the command 'CALL 95 preset location'. When the menu has appeared, you will be presented with the following options:

- System Information
- Camera Settings
- PZM Set
- IR Set
- Aux Settings
- Scan Settings
- Title Settings
- Alarm Settings - Not supported (we recommend usgin our XSDA-2 for alarm in and out functions)
- Language Settings
- Default Set

After the main menu has appeared, you can use the 'up'/'down' buttons on the speed dome controller or the 'up'/'down' key on the DVR to navigate on the menu.

### 5.1 System Information

Option: Ver / ADDR / BPS / PROT

This option allows you to view the system information from version number, speed dome address, baudrate and protocol.

**Version No.:** Version number of the camera

**Address:** Set the dome address using the dial switch

**Baudrate:** Speed dome automatically sets the baudrate

**Protocol:** Speed dome automatically sets the protocol

**Exit:** Save / End and return to the previous menu.

VER:	V1.02S
ADDR:	000
BPS:	AUTO
PROT:	AUTO

EXIT

## 5.2 Camera Setting 1 Option: ZM SPEED / WB / EXPOSURE / B LIGHT / FREEZE

The camera setting option allows you to adjust; zoom speed, white balance, exposure, backlight compensation or turn on the image freezing function.

**Zoom Speed:** Set the speed to fast, medium or slow

**White Balance:** Set the white balance function to automatic indoor, outdoor or manual

**White Balance R Gain:** If white balance is set to manual, adjust the Red Gain from 0-255.

**White Balance B Gain:** If white balance is set to manual, adjust the Blue Gain from 0-255.

**Exposure:** Adjust the lens exposure on the camera (0-14), with 14 being highest exposure.

**Backlight Compensation:** Turn the function on or off

**Image Freezing:** Turn the function on or off

CAM TYPE:	XF-S
ZM SPEED:	FAST
WB MODE:	AUTO
WB RGAIN:	000
WB BGAIN:	000
EXPOSURE:	07
B LIGHT:	OFF
FREEZE:	OFF
 NEXT	
EXIT	
SAVE	

**Next:** Go to the next camera setting submenu.

**Exit:** End and return to the previous menu.

**Save:** Save the settings and exit the submenu

## 5.3 Camera Setting 2

The camera setting option allows you to adjust; wide dynamic mode, wide dynamic level, mirror image function, day & night setting, image effect, image flip, OSD display and minimum focus.

**Wide Dynamic Mode:** Set to automatic, manual or off

**Wide Dynamic Level:** Set the WDR level (0-128).

**Image Mirror:** Turn the mirror function on or off.

**Day & Night Setting:** Turn the day night setting to on, off or automatic

**Image Effect:** Turn the image effect to inverse colour, black & white or off.

**Image Flip:** Turn the function on or off

**OSD Display:** Turn the function on or off

WDR MODE:	OFF
WDR LEV:	080
MIRROR:	OFF
DAY NIGHT:	AUTO
EFFECT:	OFF
IMG FLIP:	OFF
OSD DISP:	OFF
MIN FCS:	100CM
 NEXT	
EXIT	
SAVE	

### 5.3 Camera Setting 2 CONTINUED

**Minimum Focus:** Adjust the minimum focus from 1cm, 10cm 30cm and 100cm.

**Last Page:** Go to the previous camera setting submenu.

**Exit:** End and return to the previous menu.

**Save:** Save the settings and exit the submenu

### 5.4 PZM - Privacy Shelter (Not available on all models)

This function is used to set privacy positions on pre-sets, the set privacy area is defined by height and width, once set the area will show as blank on the video output.

SEQ	WIDE	HIGH	DISP
1	00	00	OFF
2	00	00	OFF
3	00	00	OFF
4	00	00	OFF
5	00	00	OFF
6	00	00	OFF
7	00	00	OFF
8	00	00	OFF

**EXIT**  
**SAVE**

### 5.5 IR SET (Not available on all models)

This function controls the brightness of the LED's.

**CDS UP LIMIT:** Set the CDS UP limit (0-255)

**CDS LOW LIMIT:** Set the CDS Low limit (0-255)

**CDS Current:** Set the CDS current

**IR Mode:** Set the IR Mode from Auto or manual.

**SYN IR CUT:** Turn this function on or off

**Wide Bright:** Adjust the wide brightness of the IR's (0-15)

**Enter Tele Bright:** Set the tele brightness

**Exit:** End and return to the previous menu.

**Save:** Save the settings and exit the submenu

SEQ	ENLARGE	TIDUITY CIR
1	01	010
2	02	020
3	03	030
4	04	040
5	05	050
6	06	070
7	07	080
8	08	090

**EXIT**  
**SAVE**

**5.6 Auxiliary Setting**

**Option:** AUTO SPEED / MAN SPEED / AUTO FLIP / START BAR  
ZOOM REV / SOFT ADD / SOFT ID / FREE TIME / FREE ACT / POWER

The auxiliary setting allows you to adjust the speed of the pan, tilt & zoom on the camera, auto flip function, soft address switch, soft ID and the free time.

**Auto Speed:** Set the automatic speed of the pan, tilt and zoom to fast, medium and slow.

**Manual Speed:** Set the manual speed of the pan, tilt and zoom to fast, medium and slow.

**Auto Flip:** Turn the auto image flip function on or off.

**Start Bar:** Turn the start bar function on or off.

**Zoom Rev:** Turn the zoom reverse function on or off.

**Soft Address Switch:** Turn the address switch on or off.

**Soft ID:** Set the soft ID on the camera. (001-255)

**Free Time:** Set the free time option (0-999)

**Free Act:** Set the free action to none, preset scan, pattern scan or preset ect.

**Power Action:** Set the camera to perform an action when it is powered. Set to none, perform preset scan, pattern scan or preset ect.

**Exit:** End and return to the previous menu.

**Save:** Save the settings and exit the submenu

**5.7 Scanning Set**

**Option:** SET AREA SCAN / RUN AREA SCAN / RUN PRESET SCAN  
/ SET PATTERN SCAN / RUN PATTERN SCAN

The scanning set option allows you to adjust and run the area, preset and pattern scan options.

**Setting the area scanning:** Set the area scanning (1-4)

**Run the area scanning:** Run the area scan (1-4)

**Set the preset scan:** Set the preset scanning areas.

**Run the preset scan:** Run the preset scan (1-4)

**Set pattern scan:** Set the mode scanning (1-4)

**Run pattern scan:** Run the mode scan (1-4)

**Exit:** End and return to the previous menu.

AUTO SPEED:	MID
MANU SPEED:	FAST
AUTO FLIP:	ON
STAT BAR:	OFF
ZOOM REV:	OFF
SOFT ID SWITCH:	OFF
SOFT ID:	001
FREE TIME:	015
FREE ACT:	NONE
POWER ACT:	NONE
EXIT	
SAVE	

SET AREA SCAN:	1
RUN AREA SCAN:	1
ENTER PRESET SCAN SET	
RUN PRESET SCAN:	1
SET PATTERN SCAN:	1
RUN PATTERN SCAN:	1
EXIT	
PRESS OPEN TO SET OR RUN	

**5.8 Title Set****Option: Area No. / Title X / Title Y / Title**

This option allows you to set the title of the camera and position the camera title on screen.

**Area No.:** Set the area number (1-4)

**X coordinates:** X position of the title on the screen (0-29)

**Y coordinates:** Y position of the title on the screen (0-14)

**Title:** Set the camera title. To do this, use the joystick on the speed dome controller or arrow keys on your DVR to navigate. To exit, either press the 'up' key or move the joystick up.

**Mode:** Input method mode, (Capitals, lower case letter, characters, symbols or numbers)

**Soft Key:** Use this to input characters.

**Delete:** Delete characters in the title

**Exit:** End and return to the previous menu.

**Save:** Save the settings and exit the submenu

AREA NO:	1
TITLE X:	00
TITLE Y:	00
TITLE:	CAMERA 1
MODE:	A, B.....Z
DELETE	
EXIT	
SAVE	

**5.9 Alarm Linkage** - Not supported (we recommend usgin our XSDA-2 for alarm in and out functions)**Option: Alarm Input / Input Type / Arming Time / Preset Scan / Pattern Scan / Zone Scan / Alarm Output**

The alarm linkage option allows you to set an adjust the alarms on the scanning modes.

**Alarm Input:** Set up to 2 alarm input numbers

**Input Type:** NO/NC

**Arming Time:** Set the arming time (Hours:Minutes)

**Preset Scanning:** Set alarm linkages on the preset location scans. (0-4). To do this, select '1' to set an alarm for preset scan 1. For no alarm, select '0'.

**Pattern Scanning:** Set alarm linkages on the pattern location scans (0-4). To do this, select '1' to set an alarm for pattern scan 1. For no alarm, select '0'.

**Zone Scanning:** Set alarm linkages on the zone location scans (0-4). To do this, select '1' to set an alarm for zone scan 1. For no alarm, select '0'.

**Alarm Output:** Turn the alarm output on or off.

**Exit:** End and return to the previous menu.

**Save:** Save the settings and exit the submenu

ALARM IN:	1
IN TYPE:	NO
ARM STA:	DISARMING
PRESET NO:	00
PST SCAN:	00
PATT SCAN:	00
ZONE SCAN:	00
ALARM OUT:	OFF
EXIT	
SAVE	

**5.10 Language Setting****Option: Language set**

Open the language settings to change the language displayed on the OSD menu.

**Language:** Change the language from Chinese or English

**Exit:** End and return to the previous menu.

**Save:** Save the settings and exit the submenu

LANGUAGE:	ENGLISH
EXIT	
SAVE	

**5.11 Default Setting****Option: Default Set**

Adjust the camera settings back to the factory default.

**Cancel:** Cancel and exit the submenu

**OK:** Set the camera back to factory default settings

**Clear all presets:** Clear all presets set on the camera

CANCEL
OK
CLEAR ALL PRESETS

## 6. Specifications

Model	XC960S30IRN
Picture Standard	PAL
Horizontal Rotation	360°
Resolution	960H
Minimum Illumination	0 Lux (IR On)
Night Vision	120m IR Night Vision
Lens Type	30x Optical Varifocal Lens
Lens Size	3.9-105.3mm (2-64°)
Preset Locations	255
Horizontal Rotation / Speed	360° / 0.1 - 160° per second
Vertical Rotation / Speed	0 - 90° / 0.1 - 120° per second
Baud Rate	2400 / 4800 / 9600 / 19200 bps
Protocol	Pelco-D, Pelco-P
Power Supply	DC 12V 5000mA
Operation Temperature	-35°C ~ 60°C
Dimensions in mm (WxHxD)	210x380x210
Weight (Kg)	5.0
Weatherproof	IP66

For more information, please contact our technical team. Contact details are on the back page.

## Notes

Manufactured exclusively for:



**HD 960H**

[www.xvision.com](http://www.xvision.com)



#### **TECHNICAL SUPPORT**

For technical support, please contact your local distributor.

Alternatively, call 0871 222 1430.

#### **LIMITED WARRANTY**

This product is supplied with a 12 month warranty. The warranty excludes products that have been misused (including accidental damage) and damage caused by normal wear and tear. In the unlikely event that you encounter a problem with this product, it should be returned to the place of purchase.

Xvision UK, Unit 2 Valley Point, Beddington Farm Road, Croydon, Surrey CR0 4WP

[www.xvision.com](http://www.xvision.com)